The Development of Helminthology in the USSR, Meeting of the All-Union Society of Helminthologists

30-2-47/49

E. M. Lyayman, and others on its most important fields. Furthermore, the author describes the various types of helminthology. In this field the USSR disposes of a great number of scientific research institutes as well as of a great staff of highly qualified specialists. Also a big library is available. A helminthologic school established by K. I. Skryabin has contributed to the successful development of helminthology in the USSR. Also the school of the Member of the Academy Ye. N. Pavlovskiy (USSR), and of the Corresponding Member AN USSR, V. A. Dogel' was very successful in this field. The helminthofauna of domestic and wild animals was investigated practically in the whole area of the USSR even in such remote areas as Sakhalin, Primorski Krai, many districts of the Yakut and Buryat-Mongolic Autonomous Socialist Soviet Republics, the Kirghiz mountains, the Kazakhstan prairies and others. A system of therapeutic and prophylactic measures was elaborated which are systematically carried out. The future tasks will be the extension and intensification of the investigations of the helminthofauna of men and of the animal as well as in other fields. The report of the Society was accepted and a new Central Council was appointed on which occasion the Member of the Academy K. I. Skryabin was again elected president. The following scientists

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The Development of Helminthology in the USSR.
Meeting of the All-Union Society of Helminthologists 30-2-47/49

were appointed honorary members: Members of the Academy Ye. N. Pavlovskiy (USSR), V. Stefanskiy (Poland), I. Babich (Yugoslavia) A. Kotlan (Hungary), Professor Ya. Govorka (Czechoslovakia), Corresponding Member of the Bulgaria, Academy of Sciences, K. Matov.

AVAILABLE: Library of Congress

1. Helminthology-Development-USSR 2. Parasitology-USSR

Card 3/3

SPASSKIY, A.A.; ROYTMAN, V.A.

Helminths of fishes of the Pechora River. Vop. ikht. no.11:192-204 '58. (MIRA 12:1)

1. Laboratoriya gel'mintologii AN SSSR.
(Pechora River--Worms, Intestinal and parasitic)
(Parasites--Fishes)

USSR/Zooparasitology - Helminths. General Problems. G.

Abs Jour : Ref Zhur - Biol., No 21, 1958, 95307

Author : Spasskiy, A.A.

Inst : AS USSR

Title : Development of Helminthology in the USSR (Session of the All-Union Society of Helminthology)

Orig Pub : Vestn. AN SSSR, 1958, No 2, 120-121

Abstract : No abstract.

Card 1/1

SPASSKIY, A.A.; SONIN, M.D.

Bird fauna of the Tuva Autonomous Province. Ornitologiia no.2:184-187 '59. (MIRA 14:7)
(Tuva Autonomous Province--Birds)

SHUMAKOVICH, Ye.Ye.; SPASSKIY, A.A.

Scientific conference of the All-Union Society of Helminthologists. Izv.AN SSSR.Ser.biol. no.4:627-631 Jl-Ag '59. (MIRA 12:9)
(HELMINTHOLOGY--CONGRESSES)

SOV/30-59-4-37/51

17(0)

AUTHORS: Spasskiy, A. A., Doctor of Biological Sciences
~~Shumakovich, Ye. Ye.~~, Doctor of Veterinary Sciences

TITLE: Tasks in the Fight Against Helminths (Zadachi bor'by s gel'-mintozami)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 4, pp 123-124 (USSR)

ABSTRACT: The All-union Association of helminthologists held a Conference between December 8th and December 12th, 1958 which dealt with the problems of the fight against helminths in man, agricultural domestic animals and plants. About 150 reports were held and discussed. K. I. Skryabin reported on a new stage of the development of helminthological science and practice. I. V. Orlov explained the fight against trichinae in the USSR. Ye. Ye. Shumakovich spoke about prospects in the fight against the turnsickness. Ye. S. Leykina reported on natural foci of multichamber echinococcosis in the Novosibirskaya oblast'. V. S. Yershov spoke about the immunization of domestic animals. V. I. Petrochenko reported on the breeding of poultry in the European part of the USSR and the (Soviet) Far East. O. I. Polyakova dealt in her report with the metabolism of helminths,

Card 1/2

SPASSKIY, A.A.; GUBANOV, N.M.

Unusual form of a dioecious cestode. Trudy Inst.morf.zhiv. no.27:91-100 '59. (MIRA 13:2)

1. Gel'mintologicheskaya laboratoriya AN SSSR.
(Cestoda)

SPASSKIY, A.A.; SPASSKAYA, L.P.

Structure of sexual organs in the cestode Arostellina reticulata Neiland, 1955. Trudy Gel'm. lab. 9:314-318 '59. (MIRA 13:3)

(Cestoda)

SPASSKIY, A.A.

Polyphyletic origin of hymenolepidids of the genus Oligorchis Fuhrmann. Trudy Gel'm. lab. 9:296-310 '59. (MIRA 13:3)
(Cestoda)

SPASSKIY, A.A.

Defining more precisely the classification of topographic relations of sexual organs in hymenolepidis. Zool.zhur. 38 no.1:31-37 Ja '59. (MIRA 13:4)

1. Helminthological Laboratory, Academy of Sciences of the U.S.S.R., Moscow.
(Tapeworms) (Generative organs)

SPASSKIY, A.A.; ROYTMAN, V.A.

Nematode fauna of the grayling. Vop.ikht. no.12:177-186 '59. (MIRA 13:4)

1. Laboratoriya gel'mintologii AN SSSR.
(Grayling--Diseases and pests) (Nematoda)

SPASSKIY, A.A.; IVASHKIN, V.M.; BOGOYAVLENSKIY, Yu.K.

Work of the 306th All-Union Helminthological Expedition of 1956 in the Tuva Autonomous Province. Trudy Gel'm. lab. 9:311-313 '59. (MIRA 13:3)

(TUVA AUTONOMOUS PROVINCE--WORMS, INTESTINAL AND PARASITIC)

SPASSKIY, A.A., SPASSKAYA, L.P.

Cestodes of passerine birds parasitic in rodents. Trudy Gel'm. lab. 10:212-216 '60. (MIRA 13:7)
(Yakutia--Cestoda) (Parasites--Passeriformes)
(Parasites--Chipmunks)

SPASSKIY, A.A.

Pseudandrya monardi (Cyclophyllidea) as indicator of the common origin of Anoplocephalata. Trudy Gel'm. lab. 10:195-197. '60. (MIRA 13:7)

(TAPEWORMS)

SPASSKIY, A.A., ROYTMAN, V.A.

Helminths of the class Monogenoidea from fishes of the Tuva Autonomous Province. Trudy Gel'm. lab. 10:198-211 '60.
(MIRA 13:7)

(Tuva Autonomous Province--Trematoda)
(Parasites--Fishes)

SPASSKIY, A.A.; ROYTMAN, V.A.

Trematodes, cestodes, and proboscis worms parasitic in fishes in the upper reaches of the Yenisey River. Vop. ikht. no.15: 183-192 '60. (MIRA 13:9)

1. Laboratoriya gel'mintologii Akademii nauk SSSR.
(Tuva Autonomous Province--Worms, Intestinal and parasitic)
(Parasites--Fishes)

SPASSKIY, A.A.

Life cycle of two cestodes parasitic on the water shrew Neomys fodiens. Dokl. AN SSSR 135 no.5:1285-1287 D '60. (MIRA 13:12)

1. Predstavleno akademikom K.I.Skryabinym.
(Cestoda) (Parasites—Shrews)

SPASSKIY, A.A.

Problems of the taxonomy and faunology of cestodes in birds of the middle Volga Valley. Trudy Gel'm.lab. 11:251-258 '61.
(MIRA 15:12)

(Volga Valley--Cestoda) (Parasites--Birds)

SPASSKIY, A.A.; BOBOVA, L.P.

Cestodes (Pseudophyllidea and Tetraphyllidea) from water birds of Kamchatka. Trudy Gel'm.lab. 11:259-269 '61. (MIRA 15:12)
(Kamchatka--Pseudophyllidea) (Kamchatka--Tetraphyllidea)
(Parasites--Water birds)

SPASSKIY, A.A.; ROYTMAN, V.A.; SHAGAYEVA, V.G.

Helminths of fishes in the basin of the Plotnikova River, Kamchatka Province. Trudy Gel'm.lab. 11:270-285 '61. (MIRA 15:12)

(Plotnikova River--Worms, Intestinal and parasitic)
(Parasites--Fishes)

SPASSKIY, A.A.; SHALAYEVA, N.M.

Discovery of Ctenotaenia marmotae (Frohlich, 1802) in marmots of the U.S.S.R. Trudy Gel'm.lab. 11:286-292 '61. (MIRA 15:12)
(Parasites--Marmots) (Ctenotaenia)

SPASSKIY, A.A.; SONIN, M.D.

Work of the Kamchatka Helminthological Expedition (317th All-Union Helminthological Expedition) in 1959. Trudy Gel'm.lab. 11:414-431 '61. (MIRA 15:12)
(Kamchatka—Worms, Intestinal and parasitic)

SPASSKIY, A.A.; KOZLOV, D.P.

Work of the Kamchatka Helminthological Expedition (317th All-Union Helminthological Expedition) in 1959-1960. Trudy Gel'm. lab. 11:432-434 '61. (MIRA 15:12)
(Kamchatka--Worms, Intestinal and parasitic)

SPASSKIY, A.A.; SONIN, M.D.; PARAMONOV, G.V.

Ornithofauna of the middle Amur Valley. Ornitologiia no.5: 161-163 '62. (MIRA 16:2)

(Amur Province—Birds)

SPASSKIY, A.A.

Absence of neotenic forms among the cyclophyllidean cestodes (Cestoda, Cyclophyllidea). Trudy Gel'm. lab. 12:166-171 '62.
(MIRA 15:7)

(Neoteny) (Cestoda)

SPASSKIY, A.A.; BOBOVA, L.P.

Cestodes of the family Hymenolepididae from water birds of Kamchatka. Trudy Gel'm. lab. 12:172-200 '62. (MIRA 15:7)
(Kamchatka--Parasites--Water birds)
(Kamchatka--Cestoda)

SPASSKIY, A.A.; FREZE, V.I.; BOGOYAVLENSKIY, Yu.K.; ROYTMAN, V.A.

Work of the Kamchatka Helminthological Expedition (317th Helminthological Expedition) in 1960. Trudy Gel'm. lab. 12:201-221 '62. (MIRA 15:7)

(Kamchatka--Worms, Intestinal and parasitic)

HUNGARY

SPASSKY, A.A., and JURPALOVA, N.N. [Affiliation not given].

"On the Belonging of the Genus Dilepidoides (Cestoda: Cyclophyllidea) to the Dilepididae Family"

Budapest, Acta Veterinaria, Vol 12, No 4, 1962; pp 343-350.

Abstract [Russian article, authors' German summary]: The authors remove the Genus Dilepidoides Spassly and Spasskaya 1954 from the Hymenolepidida family and transfer it to the Dilepidida family. The typical species, Dilepidoides bauchei (Joyeux 1924) collected in 1924 from specimens of Gallus gallus living in the natural state is thoroughly described from the anatomical point of view. It is emphasized that the representatives of the genus are in possession of a powerful, very complicated cirrus. The attack of D. bauchei on the domestic hen may be traced to the hen living in the wild state. [3 references, 2 Russian].

1/1

SPASSKIY, A.A.

Phenomenon of secondary polymerization of gonads in hymenolepidids. Dokl. AN SSSR 142 no.3:734 736 Ja '62. (MIRA 15:1)

1. Laboratoriya gel'mintologii AN SSSR. Predstavleno akademikom K.I.Skryabinym.
(SOVIET FAR EAST--CESTODA) (GENERATIVE ORGANS, MALE)

SPASSKIY, A.A., doktor biol. nauk, akademik, otv. red.; YAROSHENKO, M.F., doktor biol. nauk, red.; AVERIN, Yu.V., doktor biol. nauk, red.; KUZNETSOVA, E., red.

[Animal and plant parasites of Moldavia] Parazity zhivotnykh i rastenii Moldavii. Kishinev, Kartia moldoveniaske, 1963. 131 p. (MIRA 17:10)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii. 2. Akademiya nauk Moldavskoy SSR (for Spasskiy). 3. Chlen-korrespondent AN Mold.SSR (for Yaroshenko).

SPASSKIY, Aleksey Andreyevich, prof., akademik; SKRYABIN, K.I., akademik, red.; SUDARIKOV, V.Ye., red.izd-va; GOLUB', S.P., tekhn. red.

[Fundamentals of cestodology] Osnovy tsestodologii. Pod red. K.I.Skriabina. Moskva, Izd-vo Akad. nauk SSSR. Vol.2., Pt.1.[Hymenolepididae - tapeworms of wild and domestic fowl] Gimenolepididy - lentochnye gel'minty dikikh i domashnikh ptits. 1963. 417 p.
(MIRA 16:5)

1. Akademiya nauk Moldavskoy SSR (for Spasskiy).
(Cestoda) (Parasites--Birds)

SPASSKIY, A.A.; BOGOYAVLENSKIY, Yu.K.; KONTRIMAVICHUS, V.L. [Kontrimavichus V.]; PARAMONOV, B.B.

Work of the Kamchatka helminthological expedition (the 317th All-Union Helminthological Expedition) in 1961. Trudy Gel'm. lab. 13:369-381 '63 (MIRA 17:3)

SPASSKIY, A.A., otv. red.; YAROSHENKO, M.F., red.; MARITS, A.M., kand. biol. nauk, red.; AVERIN, Yu.V., doktor biol. nauk, red.; PRINTS, Ya.I., red.; KORYAKINA, I., red.

[Papers on neurophysiology] Sbornik po neirofiziologii. Kishinev, Kartia Moldoveniaske, 1963. 99 p. (MIRA 17:6)

1. Akademiya nauk Moldavskoy SSR. Institut zoologii. 2. Deystvitel'nyy chlen AN Moldavskoy SSR (for Spasskiy, Prints). 3. Chlen-korrespondent AN Moldavskoy SSR (for Yaroshenko).

SPASSKIY, A.A.; BOGOYAVLENSKIY, Yu.K.; SONIN, M.D.

Work of the Chukchi helminthological expedition (the 318th All-Union Helminthological Expedition) in 1961. Trudy Gel'm. lab. 13:382-386 '63 (MIRA 17:3)

YAROSHENKO, M.F.; SPASSKIY, A.A., akademik (Kishinev)

Control of agricultural pests; valuable experience gained by the Zoological Institute of the Moldavian Academy of Sciences. Priroda 52 no.12:75-79 '63. (MIRA 17:3)

1. Chlen-korrespondent AN Moldavskoy SSR (for Yaroshenko).
2. AN Moldavskoy SSR (for Spasskiy).

SPASSKIY, A. A.

"The taxonomy of Cyclophrylidae (Cestodes)."

report submitted for 1st Intl Cong, Parasitology, Rome, 21-26 Sep 1964.

Inst of Zoology, AS Moldavian SSR, Kishinev.

SPASSKIY, A.A. (Kishinev)

Conference on microbial metabolites. Prirода 53 no.4:115-116 '64.
(MIRA 17:4)

SPASSKIY, A.A.; YURPALOVA, N.M.

New genus of tapeworms Orientolepis (Cestoda, Hymenolepididae) from domestic chickens. Trudy Gel'm. lab. 14:197-200 '64.

(MIRA 17:10)

SPASSKIY, A.A., akademik; SHUMILO, R.P.

Phenomenon of the postlarval development of the proboscis and hooks in cestodes of the genus Triaenorhina, n. gen. (Paruterinidae). Dokl. AN SSSR 164 no.6:1436-1438 O '65.

(MIRA 18:10)

1. AN Moldavskoy SSR (for Spasskiy).

SPASSKIY, A.A.

Two new hymenolepidid genera Ortleppolepis nov. gen. and Styolepis nov. gen. (Cestoda, Cyclophyllidea) from birds. Trudy Gel'm. lab. 15:145-150 '65 (MIRA 19:1)

SPASSKIY, A.A.; TOLKACHEVA, L.M.

Anserilepis nov. gen. (Cyclophyllidea, Hymenolepididae) a new genus of cestodes from anserines. Trudy Gel'm. lab. 15:151-155 '65 (MIRA 19:1)

SPASSKIY, A.F. (Astrakhan')

About B. IA. Isachkin's article "Solution of quadratic equations by means of the slide rule." Mat.v shkole no.1:67-68 '60. (MIRA 13:5)

(Slide rule)
(Equations, Quadratic--Problems, exercises, etc.)
(Isachkin, B. IA.)

SHANSKIY, A. P. and RYBKIN, A. A.

"Pressure of Gases on the Surface of the Metals--Forms and Methods for Calculating the Gas Elimination Capacities of the Mould"

report presented at the 7th Conference on the Interaction of the Casting Mould and the Casting, sponsored by the Inst. of Mechanical Engineering, Acad. Sci. USSR, 25-28 January 1961.

SHAMSHIY, A. P. and KUZ'MOV, A. A.

"The Theory of Gas Formation in the Mould"

report presented at the 7th Conference on the Interaction of the Casting Mould and the Casting, sponsored by the Inst. of Machanical Engineering, Acad. Sci. USSR, 25-28 January 1961.

SPASSKIY, A. F., CAND TECH SCI, "~~PRODUCTION~~ Formation AND TRANS-PORT~~ATION~~ OF GASES IN AN INGOT MOLD." MOSCOW, 1961. MIN OF HIGHER AND SEC SPEC ED RSFSR. MOSCOW AUTOMECHANICAL INST. CHAIR OF "FOUNDRY ~~PRODUCTION~~ Operations"). (KL-DV, 11-61,222).

SPASSKIY, A.F.; RYZHIKOV, A.A.

Process of gas formation in dry foundry molds and cores. Lit. (MIRA 14:6)
proizv. no.3:22-24 Mr '61.
(Molding (Founding))

RYZHIKOV, A.A.; SPASSKIY, A.F.

Gas processes in foundry molds. Lit. proizv. no. 4:21-23 Ap '61.
(MIRA 14:4)

(Molding (Founding)) (Sand, Foundry)

ACCESSION NR: AR4027685 S/0276/64/000/001/G031/G031

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 1G228

AUTHOR: Spasskiy, A. F.; Ry*zhikov, A. A.

TITLE: Optimal mold pouring conditions for obtaining high-quality castings

CITED SOURCE: Sb. Novoye v liteyn. proiz-ve. Gor'kiy, 1963, 5-18

TOPIC TAGS: casting, precision casting, casting theory

TRANSLATION: The mold should be filled at a rate such that the heat of overheating is removed from the areas most distant from the metal entry point. These areas may contain some amount of the hard phase, but the metal must retain high fluidity and reproduce well the surface contours of the mold, i.e., fill it normally. The fulfillment of this condition assures the desired longitudinal temperature gradient in the casting, allows directed hardening from the most remote to the nearest points to the metal entry point, and also results in a considerable saving of metal in the pouring gate system. External refrigerators also operate more efficiently. The following formula for determining the

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ACCESSION NR: AR4027685

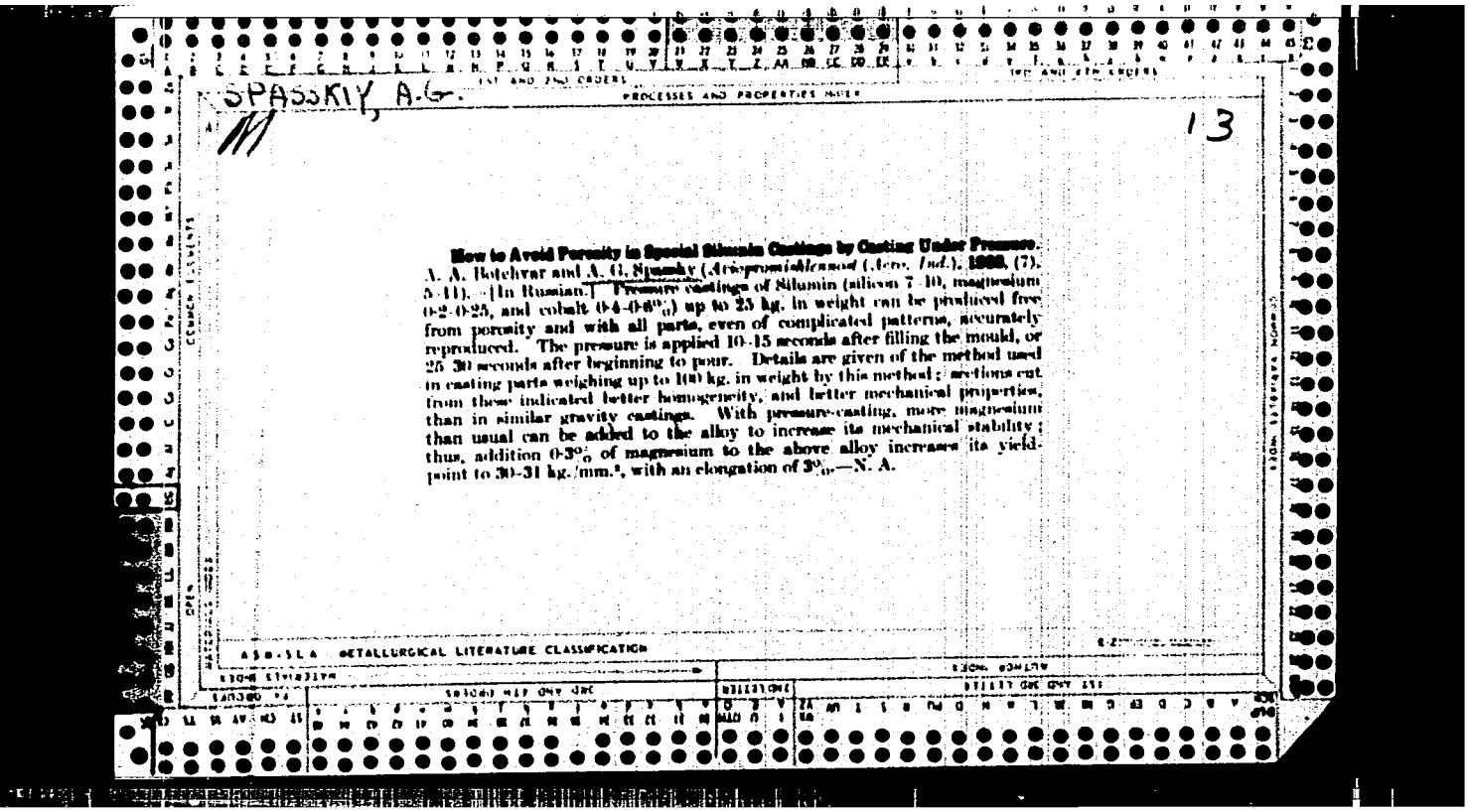
pouring temperature is given:

$$\tau_{зал} = \frac{\pi \cdot R^2 \cdot \gamma^2}{4 \cdot b_\phi^2} \left[5{,}303 c^2 \lg^2 \left(\frac{T_{зал} - T_\phi}{T_{лик} - T_\phi} \right) + \frac{N^2 \rho^2}{(T_{лик} - T_\phi)} \right],$$

where R is half the wall thickness, γ is the specific weight of the metal; b_ϕ is the heat accumulation factor of the mold; c is the specific heat capacity of the metal; $T_{зал}$ is the pouring temperature; T_ϕ is the mold temperature; $T_{лик}$ is the liquidus temperature; N is the solid phase fraction; ρ is the specific heat of crystallization. As an example, the authors cite the time required for the casting of an automotive cylinder block and calculate the temperature of the mold surface receiving heat from the poured metal. 5 illustrations. Bibliography with 7 titles.

DATE ACQ: 03Mar64 SUB CODE: ML ENCL: 00

Card 2/2

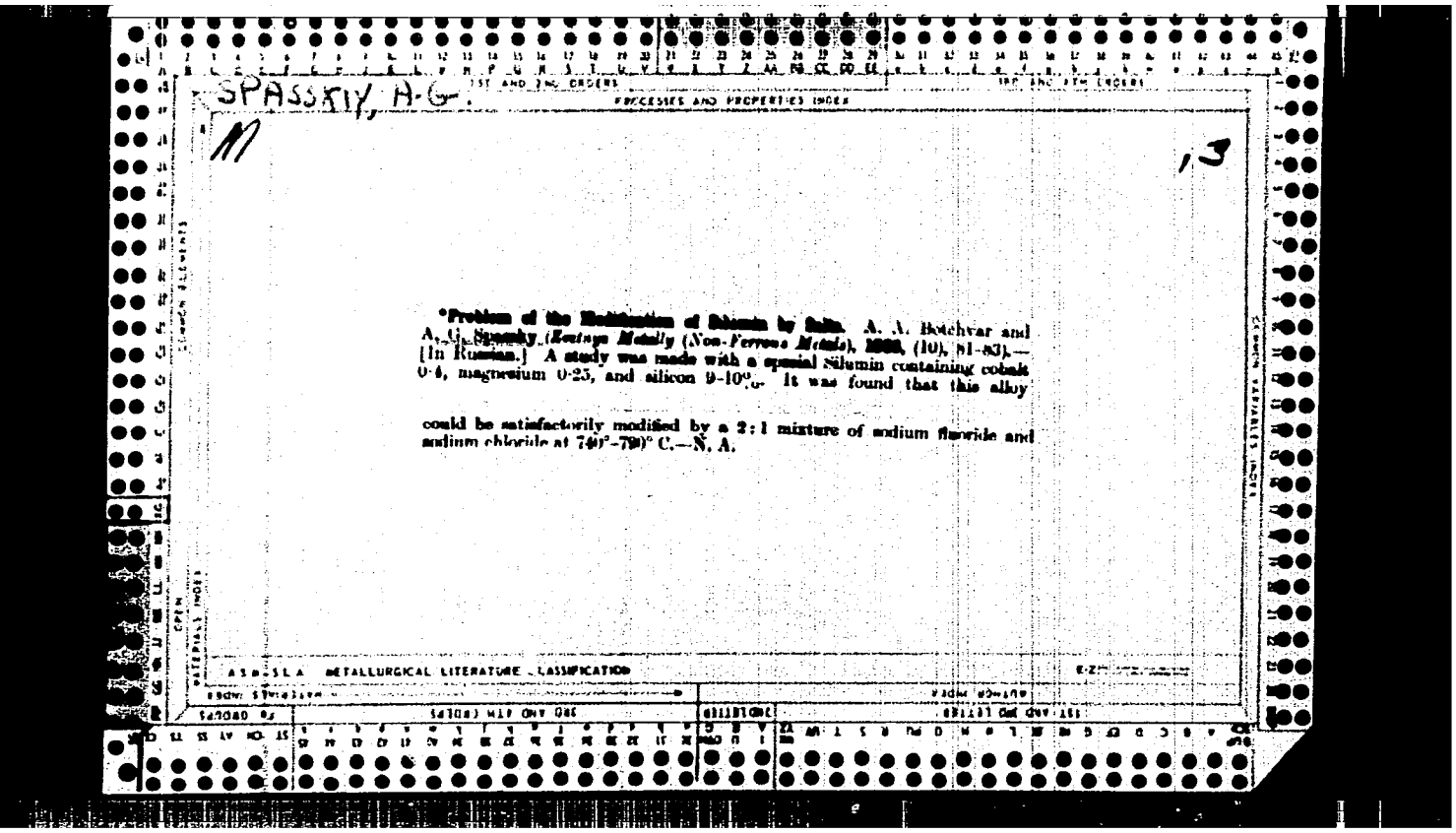


SPASSKIY, A.G.

13

How to Avoid Porosity in Special Silumin Castings by Casting Under Pressure.
A. A. Batchvar and A. G. Spassky (*Avtogennoe delo* (Autog. Ind.), 1938, (7), 5-11). [In Russian.] Pressure castings of Silumin (silicon 7-10, magnesium 0·2-0·25, and cobalt 0·4-0·6%) up to 25 kg. in weight can be produced free from porosity and with all parts, even of complicated patterns, accurately reproduced. The pressure is applied 10-15 seconds after filling the mould, or 25-30 seconds after beginning to pour. Details are given of the method used in casting parts weighing up to 100 kg. in weight by this method; sections cut from these indicated better homogeneity, and better mechanical properties, than in similar gravity castings. With pressure-casting, more magnesium than usual can be added to the alloy to increase its mechanical stability; thus, addition 0·3% of magnesium to the above alloy increases its yield-point to 30-31 kg./mm.², with an elongation of 3%.—N. A.

A50-51A METALLURGICAL LITERATURE CLASSIFICATION



SPASSKIY, A.G.

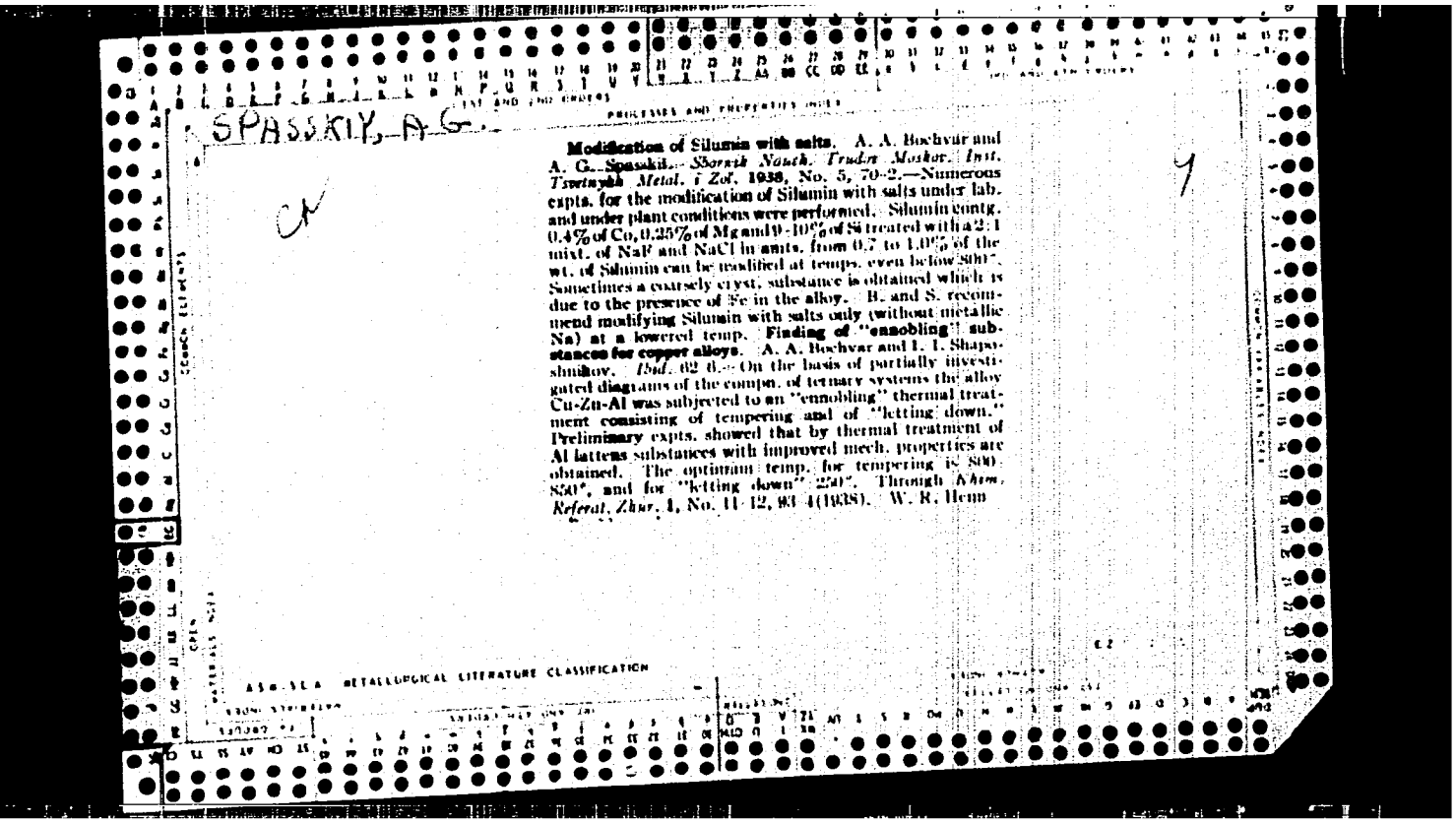
PROCESSES AND PROPERTIES INDEX

M

13

*Problem of the Modification of Silumin by Salts. A. A. Bochvar and A. G. Spasskiy. (*Kontsyn Metally* (*Non-Ferrous Metals*), 1938, (10), 81–83).—[In Russian.] A study was made with a special Silumin containing cobalt 0·4, magnesium 0·25, and silicon 9–10%. It was found that this alloy could be satisfactorily modified by a 2 : 1 mixture of sodium fluoride and sodium chloride at 740°–790° C.—N. A.

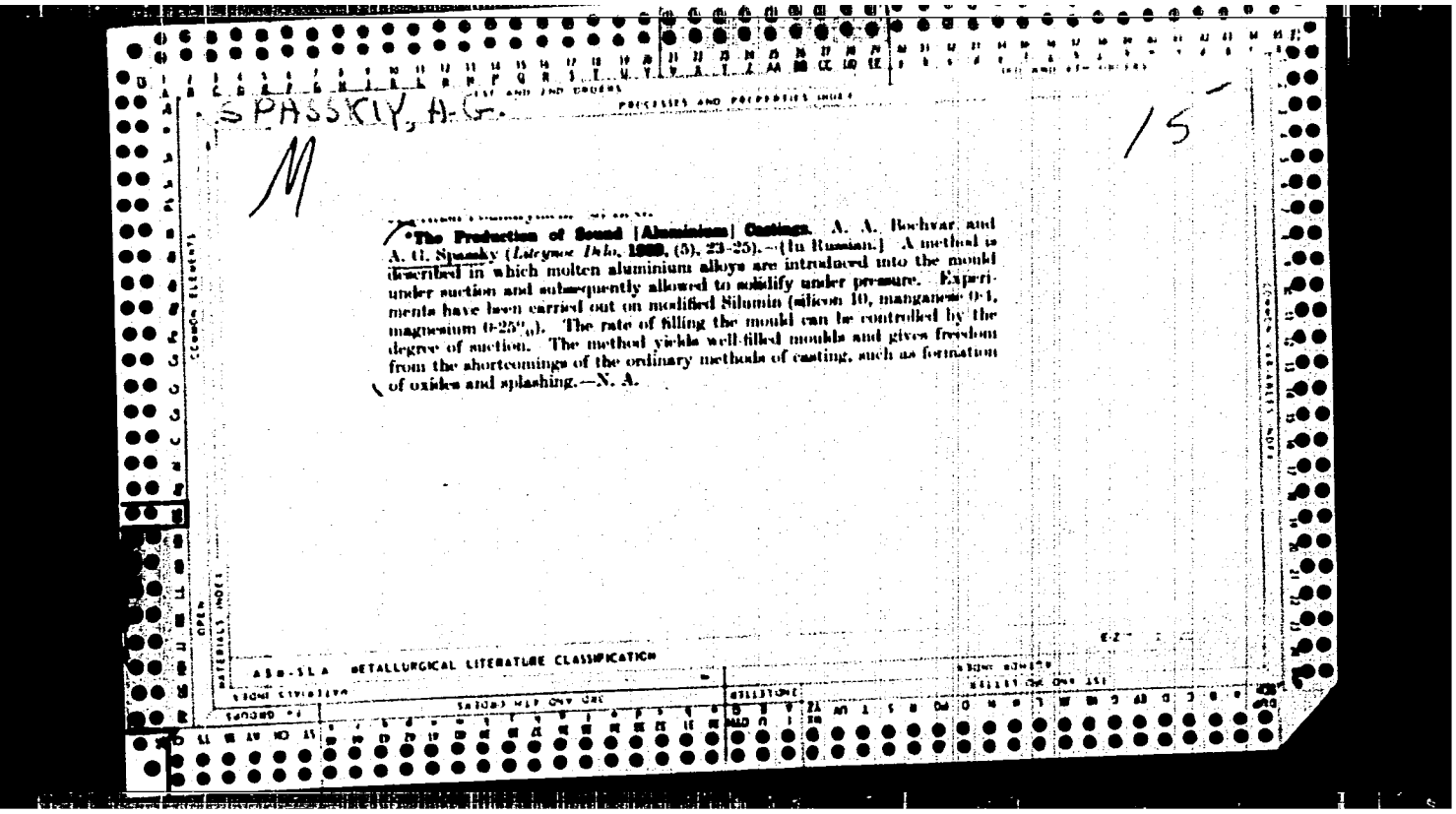
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



SPASSKIY, A. G.

Modification of Silumin with salts. A. A. Bochvar and A. G. Spasskii.—*Sbornik Nauch. Trudov Moskov. Inst. Tsvetnykh Metal. i Zol.* 1938, No. 5, 70–2.—Numerous expts. for the modification of Silumin with salts under lab. and under plant conditions were performed. Silumin contg. 0.4% of Co, 0.25% of Mg and 9–10% of Si treated with a 2:1 mixt. of NaF and NaCl in amts. from 0.7 to 1.0% of the wt. of Silumin can be modified at temps. even below 580°. Sometimes a coarsely cryst. substance is obtained which is due to the presence of Fe in the alloy. B. and S. recommend modifying Silumin with salts only (without metallic Na) at a lowered temp. **Finding of "ennobling" substances for copper alloys.** A. A. Bochvar and I. I. Shapovshnikov. *Ibid.* 62–8.—On the basis of partially investigated diagrams of the compn. of ternary systems the alloy Cu-Zn-Al was subjected to an "ennobling" thermal treatment consisting of tempering and of "letting down." Preliminary expts. showed that by thermal treatment of Al lattens substances with improved mech. properties are obtained. The optimum temp. for tempering is 800–850°, and for "letting down" 250°. Through *Khim. Referat. Zhur.* 1, No. 11–12, 93–4 (1938). W. R. Henn

A3a-3L4 METALLURGICAL LITERATURE CLASSIFICATION



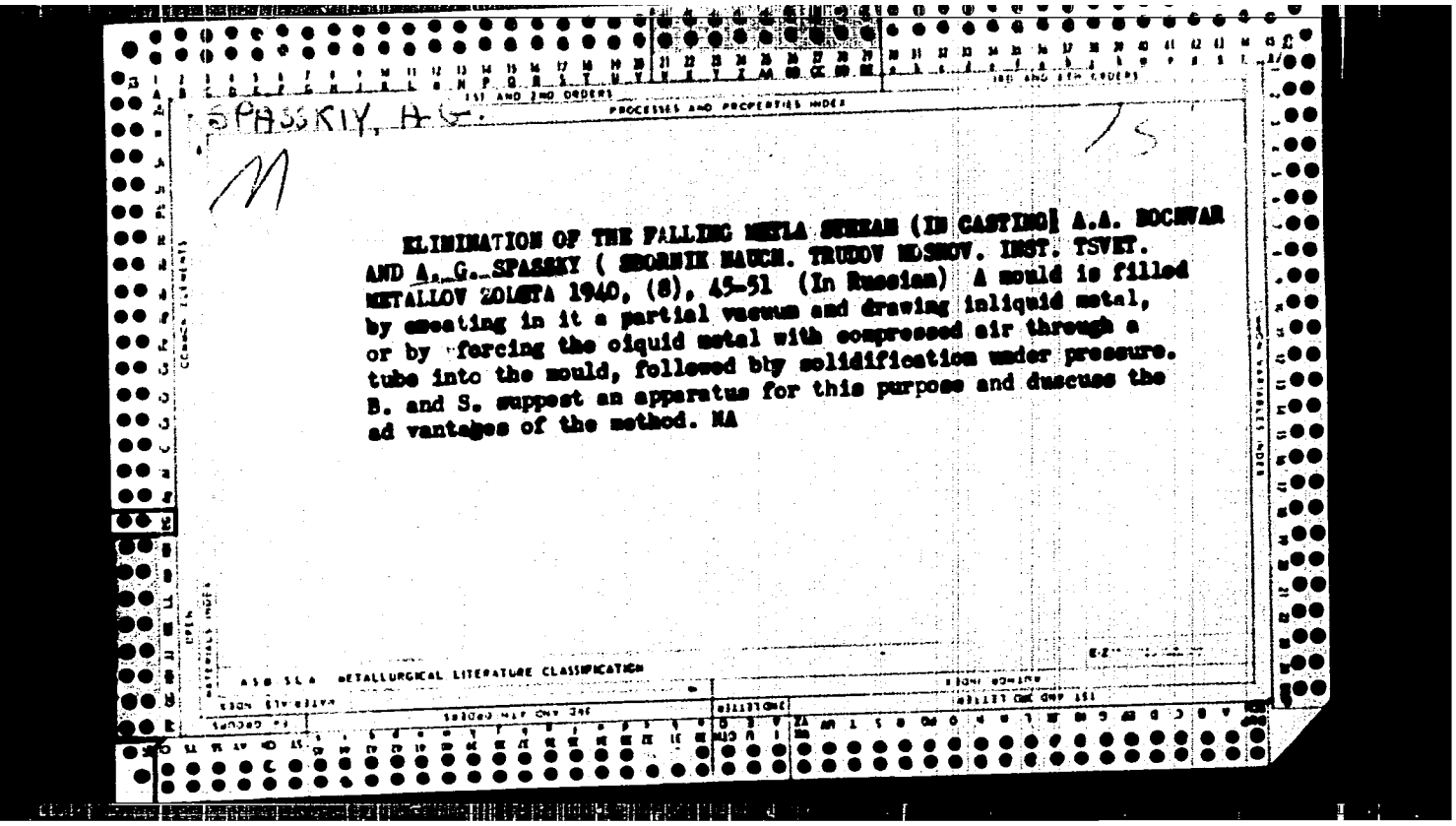
SPASSKIY, A.G.

M

15

*The Production of Sound [Aluminium] Castings. A. A. Bochvar and A. G. Spassky (*Liteynoe Delo*, 1939, (5), 23-25).—[In Russian.] A method is described in which molten aluminium alloys are introduced into the mould under suction and subsequently allowed to solidify under pressure. Experiments have been carried out on modified Silumin (silicon 10, manganese 0·4, magnesium 0·25%). The rate of filling the mould can be controlled by the degree of suction. The method yields well-filled moulds and gives freedom from the shortcomings of the ordinary methods of casting, such as formation of oxides and splashing.—N. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



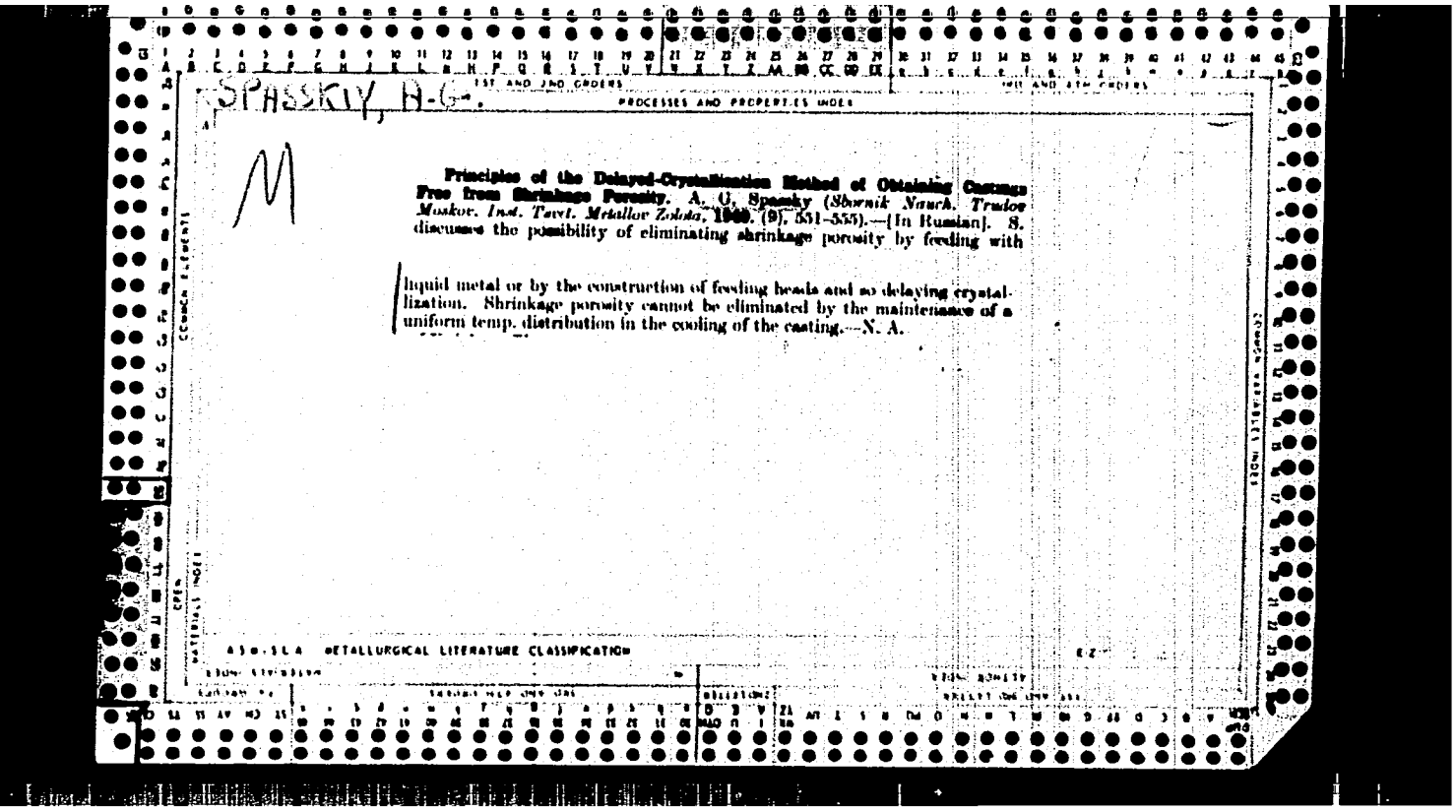
SPASSKIY, A.G.

M

15

ELIMINATION OF THE FALLING METAL STREAM (IN CASTING) A.A. BOCHVAR AND A.G. SPASSKY (SBORNIK NAUCH. TRUDOV MOSKOV. INST. TSVET. METALLOV ZOLOTA 1940, (8), 45-51 (In Russian) A mould is filled by sucating in it a partial vacuum and drawing inliquid metal, or by forcing the oiquid metal with compressed air through a tube into the mould, followed bly solidification under pressure. B. and S. suppest an apparatus for this purpose and duscuss the ad vantages of the method. MA

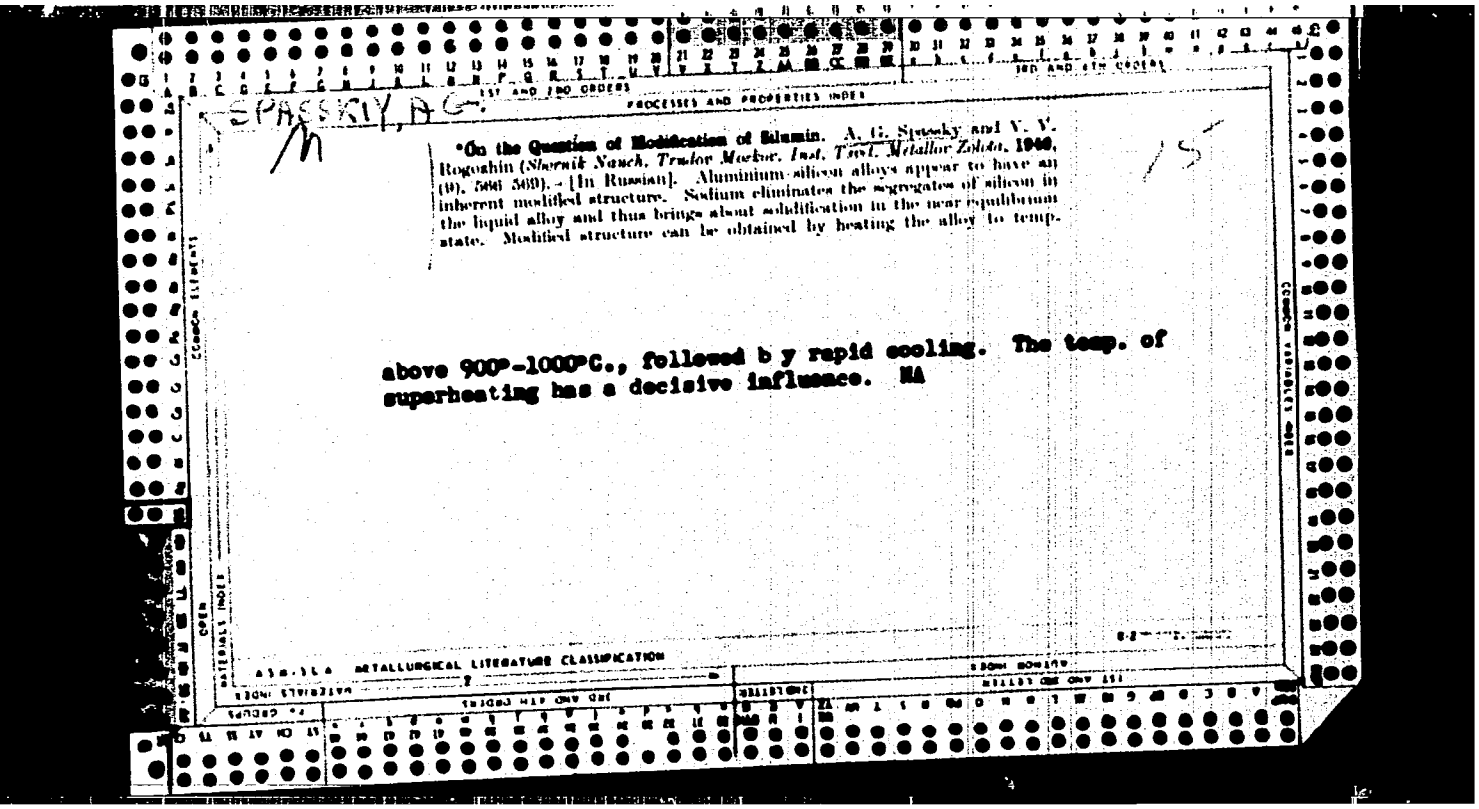
A58 SLA METALLURGICAL LITERATURE CLASSIFICATION



SPASSKIY, A. G.

M

Principles of the Delayed-Crystallization Method of Obtaining Castings Free from Shrinkage Porosity. A. G. Spasskiy (*Sbornik Nauch. Trudov Moskov. Inst. Tsvet. Metallov Zolota*, 1940, (9), 551–555).—[In Russian]. S. discusses the possibility of eliminating shrinkage porosity by feeding with liquid metal or by the construction of feeding heads and so delaying crystallization. Shrinkage porosity cannot be eliminated by the maintenance of a uniform temp. distribution in the cooling of the casting.—N. A.



SEMENSKIY, A.G.

*On the Question of Modification of Silumin. A. G. Spasskiy and V. V. Rogoshin (*Sbornik Nauch. Trudov Mosksr. Inst. Tsvet. Metallov Zoloto*, 1950, (9), 566-569). - [In Russian]. Aluminium-silicon alloys appear to have an inherent modified structure. Sodium eliminates the segregates of silicon in the liquid alloy and thus brings about solidification in the near equilibrium state. Modified structure can be obtained by heating the alloy to temp. above 900°-1000°C., followed by rapid cooling. The temp. of superheating has a decisive influence. MA

SPASSKIY, A. G.

Osnovy liteinogo proizvodstva. Dop. v kachestve uchebn. posobiia dlia studentov metallurgich. vyssh. uchebn. zavedenii. Moskva, Metallurgizdat, 1950. 318 p. illus.

Bibliography: p. (317) - 318.

(Fundamentals of founding.) MH

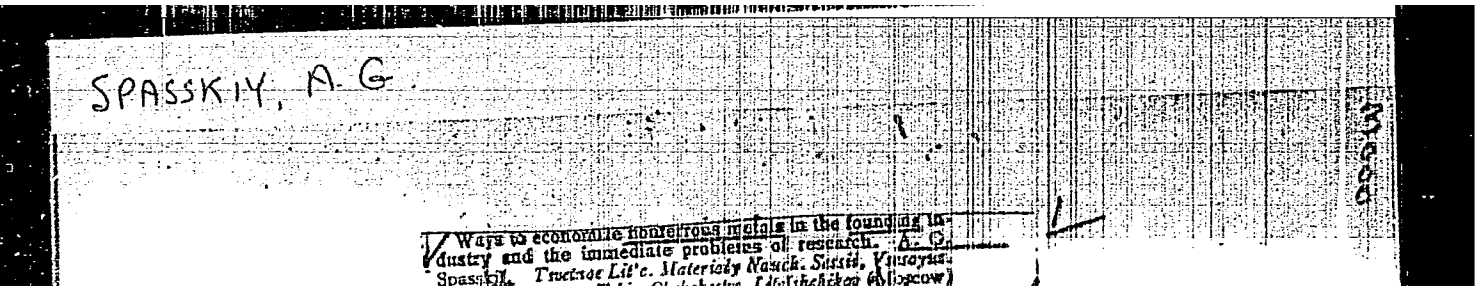
DLC: TS230.S73

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SPASSKIY, A. G.

SPASSKIY, A. G. -- "FUNDAMENTALS OF THE CASTING INDUSTRY." SUB 4 FEB 52, MOSCOW INST OF NONFERROUS METALS AND GOLD IMENI M. I. KALININ (DISSERTATION FOR THE DEGREE OF DOCTOR IN TECHNICAL SCIENCES)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952



and (2) by [illegible] creasing the wt. Exploratory works in these and related problems are discussed. M. Hosch

LFH

SPASSKIY, A.G.

"Magnesium alloys" by K.I. Portnoi, A.A. Lebedev. Reviewed by A.G. Spasskii. TSvet. met. 27 no.1:75-76 Ja-F '54. (MLRA 10:9)
(Magnesium alloys)
(Portnoi, K.I.) (Lebedev, A.A.)

SPASSKIY, A.G.

BAYKONUROV, O.A.; BELYAYEV, A.I.; BOGOMOLOV, V.I.; VANYUKOV, V.A.; GAZARYAN, L.M.; GLEK, T.P.; GORYAYEV, M.I.; KARCHEVSKIY, V.A.; KLUSHIN, D.N., KUNAYEV, D.A.; LEBEDEV, B.N.; LISOVSKIY, D.I.; LOSKUTOV, F.M.; MITROFANOV, S.I.; MOLCHANOV, A.A.; MOSKVITIN, I.N.; OL'KHOV, N.P.; OSIPOVA, T.B.; PLAKSIN, I.N.; PONOMAREV, V.D.; RUMYANTSEV, M.V.; SOKOL'SKIY, D.V.; SOKOLOV, M.A.; SPASSKIY, A.G.; STRIGIN, I.A.; SUSHKOV, K.V.; SHAKHNAZAROV, A.K.; YASYUKEVICH, S.M.

Khosrov Kurginovich Avetisian, obituary. TSvet.met.27 no.3:66-68 My-Je '54. (MIRA 10:10)

(Avetisian, Khosrov Kurginovich, 1900-1954)

SPASSKIY, A. G.

Category : USSR/Solid State Physics - Morphology of Crystals. E-7
Crystallization

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6700

Author : Spasskiy, A.G., Fikunov, M.V.
Title : Concerning the Behevior of Suspended Impurities during Crystallization

Orig Pub : Sb. nauch. tr. Mosk. in-ta tsvet. met. i zolota, 1955, No 25, 368-380

Abstract : An experimental investigation was made of the crystallization of salol, diphenylamine, axo-benzol, benzyl, and naphthalene, in which the impurities were lycopodium, carbon, aluminum oxide, chromium oxide, and starch. The observations were made visually with the aid of a MIM-5 microscope, as well as with photographs taken at definite time intervals (from 2.5 to 800 seconds). The critical speeds at which the impurities are forced back by the "crystallization pressure" during the growth of the crystal have been established. The influence of the nature of the substance and of the impurity as well as of the speed of crystallization and of the

Card : 1/2

impurity have been explained, with allowances made for the produced interphase surface tensions. The authors believe that at high crystallization speeds the inertia of the particle will also manifest itself. The phenomenon of separation of gas bubbles on the growing crystals is described in detail. The strong influence of extraneous particles (impurities) of non-metallic character on the structure of the metallic ingot is noted. A scheme is detailed for the behavior of the suspended impurities during the ingot-crystallization process, and certain data are given concerning an experimental verification of the premises suggested by the authors.

Card : 2/2

SPASSKIY, A.G.

AKIMOVA, K.I.; BAZHENOV, M.F.; BAKHVALOV, G.T.; BEZKLUBENKO, N.P.; BERMAN, S.I.; BOGDANOV, Ye.S.; BODYAKO, M.N.; BOYKO, B.B.; VINOGRADOV, S.V.; GAGEN-TORN, K.V.; GLEK, T.P.; GOREV, K.V.; GRADUSOV, P.I.; GUSHCHINA, T.N.; YEMEL'YANOV, A.K.; YESIKOV, M.P.; ZDZYARSKIY, A.V.; ZAKHAROV, M.V.; ZAKHAROVA, M.I.; KARCHEVSKIY, V.A.; KOMAROV, A.M.; KORZHENKO, O.T.; LAYNER, V.I.; MAL'TSEV, M.V.; MILLER, L.Ye.; MILOVANOV, A.I.; MIRONOV, S.S.; NIKONOROVA, N.A.; OL'KHOV, N.P.; OSIPOVA, T.V.; OSOKIN, N.Ye.; PERLIN, I.L.; PLAKSIN, I.N.; PROKOF'YEV, A.D.; RUMYANTSEV, M.V.; SEVERDENKO, V.P.; SEREDIN, P.I.; SMIRYAGIN, A.P.; SPASSKIY, A.G.; TITOV, P.S.; TURKOVSKAYA, A.V.; SHAKHNAZAROV, A.K.; SHPICHINETSKIY, Ye.S.; YURKSHTOVICH, N.A.; YUSHKOV, A.V.; YANUSHEVICH, L.V.

Sergei Ivanovich Gubkin. TSvet.met. 28 no.6:60-61 N-D '55. (MIRA 10:11)
(Gubkin, Sergei Ivanovich, 1898-1955)

SPASSKIY, A.G.

PHASE I BOOK EXPLOITATION 509

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti

Fasonnoye lit'ye mednykh splavov: [sbornik] (Shaped Casting of Copper Alloys; Collection of Articles) Moscow, Mashgiz, 1957. 205 p 6,500 copies printed.

Ed.: Orlov, N. D., Candidate of Technical Sciences; Eds.: Ignatenko, Yu. F., Engineer; Telis, M. Ya., Engineer; and Chursin, V. M., Candidate of Technical Sciences; Ed. of Publishing House: Chernysheva, N. P.; Tech. Ed.: El'kind, V. D.

PURPOSE: This collection of articles is intended for engineers, technicians, and workers engaged in casting nonferrous metals. It may also be used by students, graduate students and scientific workers in this field.

COVERAGE: This book contains papers presented during a technical and scientific convention held in Moscow in December 1955, on the theory and practice of shaped copper-alloy castings. This convention took place under the auspices of the komitet tsvetnogo lit'ya Tsentral'nogo pravleniya NTO Mashprom (Committee on Nonferrous Castings of the Central Administration of the Scientific and Technological Division of the Machine

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Shaped Casting of Copper (Cont.)

Industry). The book contains 20 articles dealing with theoretical and practical aspects of casting of nonferrous metals. See Table of Contents for abstracts of individual articles.

TABLE OF CONTENTS:

The author reviews the history and the various properties of lead bronze. He relates the results of his investigations into the effects of various factors present during solidification, on the grain size and structure of this alloy. He also mentions the cause of gaseous inclusions. Various means of refining this alloy by fluxes and deoxidizers are mentioned. Blowing with inert gases is said to be still in an experimental stage. No personalities are mentioned. There are no references.

Card 2/17

Mal'tsev, M. V., Doctor of Technical Sciences, Docent. Means of Improving Quality of Nonferrous Castings 12

This paper reports that experiments conducted during the last few years by the department of metallurgy at the Moskovskiy institut tsvetnykh metillov i zolota (Moscow Institute for Nonferrous Metals and Gold) showed that the quality of nonferrous castings may be considerably improved by adding small amounts of certain elements which change the process of crystallization and solidfication of metals. These elements are said to effect the grain size and the distribution of alloying elements. Experiments were carried out with aluminum alloys to which small amounts (0.1 to 0.01 per cent) of titanium, zirconium, columbium, chromiun, molybdenum, tungsten and boron had been added. The author concludes that this method of controlling the mechanical and other properties of castings by adding certain elements may have extensive prsctical applications. No personalities are mentioned. There are no references.

Chursin, V. M., Candidate of Technical Sciences. Effect on Structure and Properties of Lead Bronzes of Addition of Small Amounts of Certain Elements 51

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The author states that the control of the crystallization process and the grain size of metals depends on rate of crystallization, temperature of metal during casting, and modifying elements. Experiments were conducted with lead bronze to which iron, nickle, chromium, cobalt, titanium, zirconium, boron and columbium had been added. These elements were added to the melt prior to pouring. Care was taken to avoid aluminum and silicon contamination as even 0.005% of aluminum adversely affects the mechanical properties and particularly the impermeability of lead bronze. There are numerous graphs illustrating the effects of certain elements on the properties of the alloy, and some photomicrographs showing changes in grain size. The author concludes that the addition of boron improves the impermeability of the alloy, and that zirconium, titanium and, to a lesser degree, boron, improve corrosion resistance to sulfuric acid. He asserts that the changes in structure, not the reduction in grain size itself, are more important in determining alloy properties. No personalities are mentioned. There are 5 references, of which 3 are Soviet and 2 English.

Lakisov, P. A., Candidate of Technical Sciences. Quality Improvement of Lead-bronze Castings 44

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Shaped Casting of Copper (Cont.)

In this paper the author deals with gaseous porosity of lead bronzes. It is claimed that gaseous porosity, a common defect, may be controlled by some changes in the casting regime. The properties of charcoal and crushed fire-clay graphite crucible material as a protective cover for the melt are discussed. The author sees many advantages in crushed crucible material, among which is the fact that its moisture content is only 5 percent that of charcoal. A different approach to the problem is blowing with nitrogen, during which the hydrogen atoms enter nitrogen bubbles by diffusion. In conclusion the author states that the proper temperature of the melt during casting is an important factor in controlling porosity. The optimum casting conditions are shown in graphs and diagrams. No personalities are mentioned. There are no references.

Verner, Ye, E., Engineer. Effect of Addition of Certain Elements on Liquidation of Lead in High-Lead Bronzes 52

The author discusses the difficulty caused by liquation in making lead bronzes. He claims that analysis of the best American-made bearings showed a lead content

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of 40 to 45 percent. According to the author lead bronzes with 30-40 percent lead show a tendency to gravitational separation of metals. Certain elements are known to counteract this tendency. Experiments were carried out with 40 percent lead bronze to investigate the effects of some elements and are said to have shown that nickel, sulfur, lithium, antimony and other elements reduce the liquation tendencies of lead, antimony especially under conditions of slow cooling. Additions of manganese, columbium, tungsten, and tellurium as well as small quantities of potassium and sodium added in pure state or with sulfur do not improve the distribution of lead in the alloy. No personalities are mentioned. There are 6 references, of which 3 are Soviet, 2 English, and 2 German.

Ozerova, Ye. I., Engineer. Protective Fluxes in Melting of Brass 64

The author discusses the use of fluxes to prevent the loss of zinc through oxidation and evaporation in melting of alloys. To avoid such losses it is necessary to find a flux which will prevent oxidation and evaporation of zinc. One of the numerous physical properties of the flux must be sufficient viscosity to keep zinc-vapor bubbles from escaping, because hydrostatic pressure of the flux alone would be insufficient to prevent evaporation. The author gives the composition of a number of fluxes which satisfy the requirements. The raw materials

for these fluxes are quartz sand and Na_2CO_3. M. V. Pikunov, under the direction of Doctor of Technical Sciences, Professor A. G. Spasskiy, of the Moscow Institute for Nonferrous Metallurgy and Gold imeni M. I. Kalinin, assisted the author in this work. There are no references.

Telis, M. Ya., Engineer. Making of Electrodes From MTs-4 Alloy for Electric Resistance Welding 75

The paper deals with the manufacture of electrodes for spot and seam welding which is said to be widely used in the Soviet machine-building industry. The following characteristics required of electrodes are listed: 1) good electrical conductivity 2) good thermal conductivity 3) good mechanical properties at elevated temperatures (Heat resistance) 4) ease of manufactures and low cost. A description is given of the composition and the preparation of a copper-base alloy for electrodes. The electrodes are then cast in permanent molds or by the centrifugal method. Various electrode alloys have been prepared by the members of the Institute of Nonferrous Metallurgy and Gold imeni Kalenin

Card 7/17

Orlov, N. D., Candidate of Technical Sciences. Properties, Melting and Casting of Silicon Bronze 102

According to the author, lead bronzes can often be replaced by less expensive silicon brass, which also has superior mechanical properties. Tables and diagrams show the changes in mechanical properties with the variation of silicon content. The effect of adding given amounts of lead, iron, phosphorous, manganese, tin, arsenic, nickle and aluminum are also examined. In casting of silicon brass shrink cavities are said to occur frequently but can be avoided by carefully designed riser systems. Blowing with nitrogen and chlorine gas is also discussed. No personalities are mentioned. There are 13 references, of which 12 are Soviet and 1 is Polish.

Babayev, D. N., Engineer. Efficient Methods of Melting and Casting Copper Alloys; Plant Practice 117

In this paper the author deals with the melting and casting of standard copper alloys designated LK 8-3L; AMts-9-1 and OSN 11-3-1. Castings from those alloys are tested for impermeability at 60 to 380 atm. hydraulic pressure, or 45 to 320 atm.

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Shaped Casting of Copper (Cont.)

air pressure. The text includes a description of the preparation of the charge, the type of furnace and the fuel used. Care is taken to avoid any possible source of moisture as this leads to porosity. Various high-efficiency molds are illustrated and described. No personalities are mentioned. There are no references.

Mayer, V. V., Engineer. Ways of Improving the Quality of Castings from Br. OTsS-3-12-5 Bronze by Melting it in Electric-arc Furnace of DSK Type; Based on the Practice of the Lublin Casting and Mechanical Plant 126

This paper deals with the practice of melting bronzes in a standard arc furnace. The author discusses the problems peculiar to arc furnaces and the various means of controlling the amount of hydrogen, which is the cause of gaseous porosity of metal. He stresses the importance of avoiding impurities which have an adverse effect on the castings, and proceeds to describe the casting regimes used at the above-mentioned plant. No personalities are mentioned. There are no references.

Card 10/17

Zaslavskiy, D. M., Engineer. Lead-Bronze Castings; Practice at the "Krasnyy Fakel" Plant 134

In this paper the author is concerned with lead-bronze castings of parts for pumps operating in fresh and salt water, and in particular with the preparation of molds and cores, especially cores made of cast-iron shavings, sand and a binding agent. These cores are said to reduce porosity in castings and improve their mechanical properties due to good thermal conductivity. The author goes on to discuss various riser systems and gating arrangements to insure good "feeding" of the casting. There are numerous diagrams and drawings showing different molds and cores for casting of lead bronze. Methods of repairing faulty castings, such as electric welding and thermal treatment, are discussed. No personalities are mentioned. There are no references.

Verner, Ye. E., Engineer. Use of Gating System With "Throttle" Arrangement in Bronze Casting; Practice at the Vladimirskiy Tractor Plant 147

Shaped Casting of Copper (Cont.)

The Vladimirskiy Tractor Plant is reported to be using a casting method with a slag-catching arrangement to eliminate slag inclusions in bronze castings. The arrangement consists of a series of retaining chambers in the gating system, where the slag is allowed to accumulate. This arrangement slows down the metal flow, thus facilitating separation of slag from the molten metal. It is reported that this method was introduced in 1945 for casting of bushings and has helped to reduce defects due to slag inclusions from 3.5 to 0.4 per cent. No personalities are mentioned. There are 2 references, both Soviet.

Golomazov, N. A., Engineer. Control of Scabbiness in Casting of Aluminum Bronze by Variable Rate of Metal Flow 150

The author states that the main difficulty in casting of aluminum bronze lies in the formation of oxide film and impurities during the pouring of metal into molds. He claims that this problem has been solved by using a slag chamber to trap the impurities and by varying the rate of metal flow. Pouring of metal is said to start at a slow rate to allow the impurities to collect in the slag chamber and the rate of metal flow is then increased to

Shaped Casting of Copper (Cont.)

insure proper filling of the mold. In conclusion the author points out that an automatic timing device to control the rate of flow would be desirable. No personalities are mentioned. There are no references.

153

Fomin, B. I. Engineer. Centrifugal Casting of Large Bronze Parts

This paper deals with centrifugal casting of large bronze parts weighing up to 3 tons. According to the author, these casting machines with vertical and horizontal axes of rotation were built at the plant, utilizing verious standard components salvaged from other machines. The most frequent deficiencies in this method of casting are listed as lamination, cracks, distortions, and dimensional inaccuracy. There are sketches showing various molds used in this casting process. In conclusion the author urges specialized design and production of centrifugal casting machines as improvised machines do not give satisfactory performance. No personalities are mentioned. There are no references.

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Soskin, L. M. and Tokarskiy, N. S., Engineers. Manufacture of Copper-Alloy Parts by Compression Molding of Molten Metal (Plant Practice) 156

Compression molding of molten metal is described by the authors as the most efficient method for preparing nonferrous high integrity parts. Compression molding of molten metal is said to be carried out on a 750-ton press with either a vertical or a horizontal plunger. Parts produced by this method are reported to have mechanical properties as good as those produced by forging and to be more economical than coventional casting because no material is wasted for reformed blanks, or risers and gates. The various aspects of compression molding are described and illustrated and there are also numerous photomicrographs showing the uniformly fine-grained structure of compression-molded parts. The text briefly outlines the characteristic equipment used, and an appendix lists safety rules to be observed in compression molding of molten metal. No personalities are mentioned. Thre are no references.

Baradan'yants, V. G., Engineer. Technology of Copper-alloy Casting in Plaster Molds 169

This method of casting is said to be useful only when a small number of castings are to be produced or when design changes are frequent but good dimensional accuracy with high surface quality is desirable. The author describes the accepted

procedure of copper-alloy casting in plaster-of-Paris molds, from the preparation of plaster and mold-making to the cleaning of the finished castings. There are numerous illustrations depicting the various stages of the process. Experiments conducted by VNIIzhelezobeton (All-Union State Scientific Research Institute for Reinforced-concrete Parts and Structures) and VIAM (All-Union Scientific Research Institute of Aviation Materials) are reported to have shown that the permeability of plaster molds to gases may be increased by steaming them prior to baking, which also results in coarser grain, less warping, and reduced shrinkage. No personalities are mentioned. There are no references.

Shklennik, Ya, I., Candidate of Technical Sciences
Bronze Casting by the Lost-wax Process 175

The author regards this casting method as a very economical one, which gives high dimensional accuracy combined with good surface finish. The wax patterns for bushings are said to be made on a specially designed machine with a retractable metal core. Topics discussed include the various methods of multiple and cluster casting as well as some methods of pattern coating and the coating compound used. Soviet personalities mentioned include A. I. Cherkasov, Design
Card 15/17

Engineer, V. A. Alekseyev, and P. S. Parshin, There is 1 Soviet reference.

Kolobnev, I. F., Candidate of Technical Sciences and Farbman, S. A., Engineer. Modern Submerged-Resistor Furnaces and Special Features of Copper Alloy Melting Process

The authors claim that the most efficient and modern way of melting copper and copper alloys is by means of a submerged-resistor furnace with closed channels. Advantages listed are simple construction and equipment, small size, high productivity, and low power consumption. Disadvantages are low temperature of slag and high rate of wear of channel lining. The authors stress the need for increased size and higher output of these furnaces and mention as an example a new furnace in Birkenhead, England, with a 15-ton capacity. Some submerged-resistor furnaces are reported to be used in pressure casting. The text contains a full description of operating conditions and some maintenance problems. No personalities are mentioned. There are no feferences.

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Vagin, V. V., Engineer.
Melting and Distribution Submerged-resistor Furnace 203

The author notes that two furnaces are used, one for melting and one for distributing, to avoid interruptions in pressure casting or permanent-mold casting. In order to streamline the casting process a new submerged-resistor furnace was developed by I. I. Teslinov, and put into operation at the Elektrovozostroitel'nyy zavod imeni S. M. Budennyy (Electric Locomotive Plant imeni S. M. Budenny) in August 1954. This furnace is portable and can operate where 220-volt current is available. It acts as both melting and distributing furnace and supplies an interrupted flow of molten metal for casting machines. There are no references.

AVAILABLE: Library of Congress

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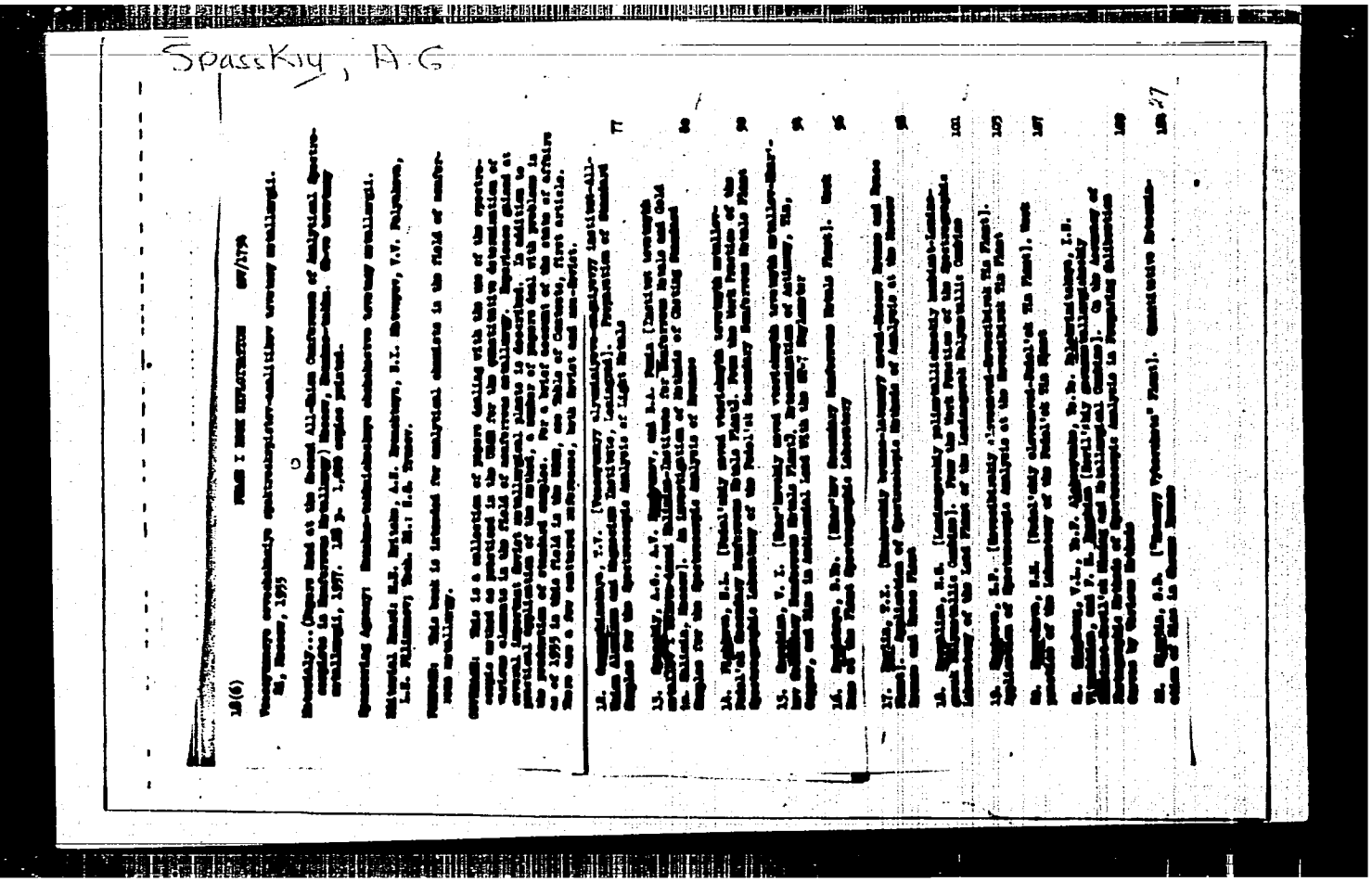
Card 17/17



Spasskiy, A.G.

Spasskiy, A.G.

137-1957-12-23914

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 148 (USSR)

AUTHOR: Spasskiy, A. G.

TITLE: Some Requirements for High-quality Castings (Nekotoryye usloviya polucheniya dobrokachestvennykh otlivok)

PERIODICAL: V sb.: Novoye v liteyn. proiz-ve. Nr 2. Gor'kiy, Knigoizdat, 1957, pp 255-264

ABSTRACT: The porosity of non-ferrous metal castings is caused by a number of reasons, among which is the use of corroded outlets and Al alloy ingots, the saturation with gas of the raw materials, the presence of nonmetallic inclusions, as well as the contamination of Al alloys by such elements as Li, Na, Mg and Ca. Both the method of charging the furnace and the smelting conditions influence the quality of the alloy. To decrease the gas saturation, chlorination is employed for the Al alloys, increased temperatures of the metal are used for brass, and exposure to an oxiding atmosphere, accompanied by stirring, for copper alloys. These methods are not radical; the method of purifying the smelt of suspensions by treating it with slag is not used at all, except for

Card 1/2

137-1957-12-23914

Some Requirements for High-quality Castings

Mg alloys. The widely employed method of modifying the Silumin alloy by Na is also not exclusive. Al alloy of the type D-16 is favorably affected by Ti in amounts of 0.1 percent while Ti, Ta, B and others are employed for the Al-Fe bronzes. Recommendations are offered on the pouring temperatures for various alloys and for the construction of a pouring system.

I. B.

1. Metals-Casting-Quality control 2. Castings-Porosity-Preventive measures

Card 2/2

SPASSKIY, A.H.

SPASSKIY, A.H., doktor tekhnicheskikh nauk.

Effect of impurities on the structure and properties of castings. Lit.proizv. no.7:21-25 Jl '57. (MIRA 10:8)
(Founding--Quality control)
(Metallography)

SPASSKIY, A.G.

Forty years of nonferrous metal founding. Lit.proizv. no.10:5-6 O '57. (MIRA 10:12)

(Nonferrous metals--Founding)

LOVTSOV, D.P.; SIZOV, V.P.; SPASSKIY, A.G.

Effect of casting conditions on ultrasonic wave damping in metals.
Izv.vys. ucheb. zav.; tsvet. met. no.3:127-131 '58.
(MIRA 11:11)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra liteynogo proizvodstva.
(Founding) (Ultrasonic waves--Industrial application)

AG. SPASSKIY

AUTHOR: Gulyayev, B.B. SOV/24-58-4-37/39

TITLE: Conference on Crystallisation of Metals (Soveshchaniye po kristallizatsii metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institut mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc. USSR) on June 28-31, 1958. About 400 people participated and the participants included specialists in the fields of foundry, metallurgy, crystallography, physics, welding, heat, physical chemistry, mathematical physics and other related subjects. In addition to Soviet participants, foreign visitors included Professor D. Czikl (East Germany) and N.I. Chvorinov (Czechoslovakia). This conference on crystallisation of metals was the fourth conference relating to the general problem of the theory of foundry processes.

Conference on Crystallisation of Metals SOV/24-58-4-37/39

General Problems of Crystallisation of Metals

Member of the Ac.Sc. Belorussian SSR N.N. Sirota, in his paper "On the Mechanism of the Process of Crystallisation", proposed a general physico-mathematical theory on germination and the growth of crystals and described its application to problems of crystallisation of metals.

Corresponding Member of the Ac.Sc. Ukrainian SSR K.P. Bunin and Yu.N. Taran, in their paper "Eutectic Crystallisation of Grey Irons", considered the features of formation of graphite separations in eutectic alloys from the point of view of the general theory of crystallisation of iron.

B.Ya. Lyubov, in his paper "Calculation of the Speed of Solidification of Metals in Large Volumes", proposed a synthesis of the molecular-kinetic and of the thermal theories of crystallisation of metallic castings.

A.G. Spasskiy, in the paper "Fundamental Factors Influencing the Structure of Castings" and M.V. Mal'tsev in the paper "Methods of Improving the Quality of Cast Metal", described results of their investigations of crystallisation of castings from various alloys and considered methods of controlling such processes.

I.L. Mirkin dealt with the influence of fluctuations in the concentration on the formation of crystallisation nuclei and formation of crystals in complex alloys.

G.P. Ivantsov gave a review of the present concepts on germination and the growth of crystals. O.N. Magnitskiy, A.A. Demidova and B.B. Gulyayev considered the influence of the speed of crystallisation and the composition of the alloys on the quantitative characteristics of the structure and the mechanical properties of castings of the systems iron-carbon and aluminium-silicon. D.S. Kamenetskaya, N.P. Bakhsanova and Ye.Z. Spektor dealt with the results of investigation of the kinetics of crystallisation of iron and its alloys. G.F. Balandin proposed a mathematical theory of formation of the structure of castings and applied it for elucidating the features of crystallisation of iron. Ya.V. Grechnyy dealt with the features of crystallisation of binary alloys of various types.

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(B)

SPASSKIY, A.G.; KLYAGINA, N.S.

Cleaning metals from nonmetallic inclusions. Izv. vys. ucheb. zav.; tsvet. met. 2 no.3:118-122 '59. (MIRA 12:9)

1.Moskovskiy institut tsvetnykh metallov i zolota, Kafedra liteynogo proizvodstva.

(Aluminum founding) (Filters and filtration)

SPASSKIY, A.G.; FOMIN, B.A.; ALEYNIKOV, S.A.

Thermal treatment of liquid metals and its effect on the mechanical properties of castings. Izv.vys.ucheb.zav.; tsvet. met. 2 no.6:162-165 '59. (MIRA 13:4)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra liteynogo proizvodstva.
(Nonferrous alloys--Metallography)
(Metals, Effect of temperature on)

18(5) SOV/128-59-4-13/27

AUTHOR: Spasskiy, A.G., Doctor of Technical Sciences, and Klyagina, N.S., Engineer

TITLE: Refining Metals from Non-Metallic Inclusions

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 4, pp 30-32 (USSR)

ABSTRACT: Impurities of cast iron caused by non-metallic inclusions are found in two forms; on the one hand as separate inclusions and one the other as small particles evenly distributed in the metal. Inclusions of the first kind are very dangerous. They diminish the compactness and durability of the castings and are the cause of leaks during the hydraulic tests. The inclusions appear in the casting after the plastic transformation. Their origin is different; they consist of oxide films mixing with the metal, of air bubbles, which get into the casting during the molding, and of carbides, nitrites, fluxes, and other inclusions of a complex composition. Unfortunately the existing methods to detect defects cannot be used to check the fluid metal in regard to inclusions like these. They

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are diccovered only in the latter stages of production. The common methods of chemical analysis fail in the detection of the different non-metallic inclusions. Very little is known about the second kind of inclusions mentioned above. They usually do not make it necessary to sort out the casting. It was also determined, what influence the particle suspended evenly in the founding has on the structure and qualities of the alloys. The impurity of the metal by heterogenous inclusions is a great drawback. Under usual circumstances, however, it can hardly be avoided. For this reason, methods to refine the metal have to be found. This is already done with refining agents. A considerable purification is accomplished by chlorination. Aluminum oxide, however, has to extracted from the metal by arenaceous quartz, while fluid aluminum is used to reduce the silicon dioxide. To control the degree of impurity and of the following refinement a structural test is carried out. The aluminum oxide is found by a chemical analysis. Fluxes are also used in the refining process. In cupolas of

big capacity fluxes only have a small effect. In this case, it is more practical to filter the metal through a material which absorbs the non-metallic inclusions. Tests with filtration are being continued. There are 2 diagrams, 2 photographs and 8 references, 6 of which are Soviet and 2 German.

SOV/128-59-6-7/25

18(7)

AUTHOR: Veprintsev, V.I., Engineer, Spasskiy, A.G., Doctor of Technical Sciences

TITLE: Stability of Zinc-Base Alloys

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 6, pp 18-20 (USSR)

ABSTRACT: After a given survey on the use of zinc-base alloys in the USA (quoted from the section "Materials" of the 2nd International Congress on pressure die casting, Paris, 1957, furthermore from Burkhardt, A., from "Metallkunde", Nr 28, 1936, and from Metal Industry, Nr 10, 1943) the basic components for the production of alloys in the USSR and in foreign countries are listed. The zinc-alloys for pressure casting have the disadvantage of changing their dimensions over a time interval. Scientific opinions on the factors of stability of zinc-base alloys are full of contradictions and obscurities. There is a lack of studies on indigenous metals differing from the foreign ones by con-

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tent, mining methods, and dressing methods. After quoting articles by M.L. Tuller, R.L. Wilcox ("Metals Technology", Nr 9, 1934, and 2, 1935), by H.E. Brauer, W.M. Pearce ("Trans. A.J.M.M.E. Nr 22, 1922), and by H. Lomberg ("Zeitschrift fuer Metallkunde", Nr 34, 1942), the author describes the experiments made by him. His experiments show that zinc containing no alloying elements stabilizes satisfactorily. The only condition is that the zinc content does not exceed 0,02%. According to the discoveries made by Mal'tsev, M.V., (Doctor thesis, Moscow, 1954) the damaging influences of bismuth and lead in copper alloys can be eliminated by the admixture of Li, Zr, Ca, and Ce. The authors have made the same experiments for zinc. (Admixtures Ti and V). These tests have been checked and acknowledged by tests made with isotopes of Sn and Cd. There are 2 graphs, 2 photographs, 1 diagram and 11 references, 6 of which are Soviet and 5 English

SOV/128-59-10-13/24

18(5)

AUTHORS: Spasskiy, A.G., Doctor of Technical Sciences, Fomin, B.A., and Oleynikov, S.I., Engineers

TITLE: Thermal Treatment of Liquid Metals and Its Influence on the Mechanical Qualities of Castings

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 10, pp 35-37 (USSR)

ABSTRACT: The authors present some results of tests made on the thermal treatment of liquid metals. Experience has shown that the thermal treatment of the liquid metal results in higher mechanical qualities. The alloy is heated up to a temperature at which the precrystallization compositions are destroyed. After this, part of the metal is filled into a ladle and cools off. The other part remains in the furnace. Experience has shown that the metal can be held in a liquid state for 25-30 minutes without changing its structure, after both parts are put together again. Aluminium alloys with 9% copper have a toughness of 16-17 kg/mm^2 and an elongation of 1-1.5% per unit length during the usual casting. After heat treatment in liquid state, the same alloy had a toughness

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Thermal Treatment of Liquid Metals and Its Influence on the Mechanical Qualities of Castings

of 22-24 kg/mm^2 and an elongation length of 3-4% per unit. Aluminum alloys with either 10% magnesium, 5% iron, 5-7% silicon or 10-11% silicon gave similar results. Figs.1, 2 and 3 show microstructures of aluminum alloys. The article is partly based on the studies of D.P. Lovtsov. There are 3 photographs and 4 Soviet references.

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SPASSKIY, A.G.

PHASE I BOOK EXPLOITATION SOV/3602

Akademiya nauk SSSR. Institut metallurgii

Issledovaniye splavov tsvetnykh metallov; sbornik 2 (Analysis of Nonferrous Metal Alloys; Collection of Articles, [No.] 2) Moscow, Izd-vo AN SSSR, 1960. 204 p. Errata slip inserted. 2,800 copies printed.

Ed.: I.A. Oding, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: V.S. Rzheznikov; Tech. Ed.: T.P. Polenova; Editorial Board: A.A. Bochvar, Academician; M.Ye. Drits, Candidate of Technical Sciences (Deputy Resp. Ed.); M.V. Zakharov, Professor, Doctor of Technical Sciences; E.S. Kadaner, Candidate of Technical Sciences (Resp. Secretary); A.M. Korol'kov, Doctor of Technical Sciences; M.V. Mal'tsev Professor, Doctor of Technical Sciences; and Z.A. Sviderskaya, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for workers in scientific research institutes, metal and machine works, for teaching personnel, and for students attending schools of higher education.

COVERAGE: This is the second volume in a series of works on nonferrous and light-metal alloys prepared by the Institut metallurgii imeni A.A. Baykova AN SSSR (Institute of Metallurgy imeni A.A. Baykov of the Academy of Sciences USSR), and the Moskovskiy institut tsvetnykh metallov i zolota imeni M.I. Kalinina (Moscow Institute of Nonferrous Metals and Gold imeni M.I. Kalinin). The problems discussed concern the casting and physical metallurgy of nonferrous alloys. The effect of alloying and deformation on the properties of various alloys, and the problems connected with the study of the casting properties and with the plotting of phase diagrams for nonferrous alloys are discussed. No personalities are mentioned. References accompany most of the articles.

PHASE I BOOK EXPLOITATION SOV/4344

Soveshchaniye po teorii liteynykh protsessov, 4th

Kristallizatsiya metallov; trudy soveshchaniya (Crystallization of Metals; Transactions of the Fourth Conference on the Theory of Casting Processes) Moscow, Izd-vo AN SSSR, 1960. 325 p. 3,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya.

Resp. Ed.: B. B. Gulyayev, Doctor of Technical Sciences, Professor; Ed. of Publishing House: V. S. Rzheznikov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for metallurgists and scientific workers. It may also be useful to technical personnel at foundries.

COVERAGE: The book contains the transactions of the Fourth Conference (1958) on the Theory of Casting Processes. [The previous 3 conferences dealt with hydrodynamics of molten metals (1955), solidification of metals (1956), and shrinkage processes in castings (1957)]. General problems in the crystallization of metals, including the crystallization of constructional steels, alloy steels with special properties, cast iron, and of nonferrous alloys, are discussed. Recognition is given to D. K. Chernov and N. T. Gudtsov and their students, B. B. Gulyayev and A. G. Spasskiy, for their contributions to the understanding of the basic problems involved in the theory of crystallization of ferrous and nonferrous metals and alloys. Academician A. V. Shubnikov is also mentioned in connection with his work on the planning of research on crystal formation. References accompany several of the articles.

Spasskiy, A. G.

ORLOV, Nikolay Dmitriyevich, kand.tekhn.nauk; MIRONOV, Vladimir Mikhaylovich; SPASSKIY, A.G., doktor tekhn.nauk, retsenzent; KURDYUMOV, A.V., kand.tekhn.nauk, retsenzent; PIKUNOV, M.V., kand.tekhn.nauk, retsenzent; CHURSIN, V.M., kand.tekhn.nauk, retsenzent; POZDNYAK, N.Z., inzh., retsenzent; ZASLAVSKIY, D.M., inzh., retsenzent; RUBTSOV, N.N., prof., doktor tekhn.nauk, red.; POMERANTSEV, S.N., inzh., red.; RYBAKOVA, V.I., inzh., red.izd-va; MODEL', B.I., tekhn.red.

[Founding handbook; shaped castings of heavy nonferrous metals] Spravochnik liteishchika; fasonnoe lit'e iz splavov tiazhelykh tsvetnykh metallov. Pod red. N.N.Rubtsova. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 402 p. (MIRA 13:11)

(Nonferrous metals--Founding)
(Founding--Handbooks, manuals, etc.)